

AMENDMENTS TO THE CLAIMS

1. (currently amended) A silicon-containing resist composition, said composition comprising
 - (a) an acid-sensitive imaging polymer,
 - (b) a radiation-sensitive acid generator, and
 - (c) a non-polymeric silicon additive which is free of acid labile moieties and/or which contains lactone.
2. (original) The resist composition of claim 1 wherein said imaging polymer contains a monomer selected from the group consisting of a cyclic olefin, an acrylate and a methacrylate.
3. (original) The resist composition of claim 1 wherein said imaging polymer contains fluorine moieties.
4. (original) The resist composition of claim 1 wherein said composition contains at least about 5 wt.% silicon based on weight of said imaging polymer.
5. (original) The resist composition of claim 1 wherein said non-polymeric silicon additive contains at least about 10 carbon atoms.
6. (original) The resist composition of claim 1 wherein said imaging polymer contains silicon.
7. (canceled)
8. (original) The resist composition of claim 1 wherein said non-polymeric silicon additive contains at least two silicon-containing moieties.

9. (original) The resist composition of claim 1 wherein said non-polymeric silicon additive contains at least one ring structure.

10. (original) The resist composition of claim 1 wherein said non-polymeric silicon additive has a weight average molecular weight of less than 3000 and a sublimation temperature or boiling point of at least 150°C.

11. (currently amended) A method of forming a patterned material structure on a substrate, said material being selected from the group consisting of semiconductors, ceramics and metals, said method comprising:

- (A) providing a substrate with a layer of said material,
- (B) forming a planarizing layer over said material layer,
- (C) applying a resist composition over said planarizing layer to form a resist layer, said resist composition comprising:
 - (a) an acid-sensitive imaging polymer,
 - (b) a radiation-sensitive acid generator, and
 - (c) a non-polymeric silicon additive which is free of acid labile moieties and/or which contains lactone.
- (D) patternwise exposing said substrate to radiation whereby acid is generated by said radiation-sensitive acid generator in exposed regions of said resist layer by said radiation,
- (E) contacting said substrate with an aqueous alkaline developer solution, whereby said exposed regions of said resist layer are selectively dissolved by said developer solution to reveal a

patterned resist structure,

- (F) transferring resist structure pattern to said planarizing layer, by etching into said planarizing layer through spaces in said resist structure pattern, and
- (G) transferring said structure pattern to said material layer, by etching into said material layer through spaces in said planarizing layer pattern.

- 12. (original) The method of claim 11 wherein said etching of step (G) comprises reactive ion etching.
- 13. (original) The method of claim 11 wherein said radiation has a wavelength of about 193 nm.
- 14. (original) The method of claim 11 wherein said substrate is baked between steps (D) and (E).
- 15. (original) The method of claim 11 wherein said imaging polymer contains a monomer selected from the group consisting of a cyclic olefin, an acrylate and a methacrylate.
- 16. (original) The method of claim 11 wherein said imaging polymer contains fluorine moieties.
- 17. (original) The method of claim 11 wherein said composition contains at least about 5 wt.% silicon based on weight of said imaging polymer.

18. (original) The method of claim 11 wherein said non-polymeric silicon additive contains at least about 10 carbon atoms.

19. (original) The method of claim 18 wherein said imaging polymer contains silicon.

20. (canceled).
